

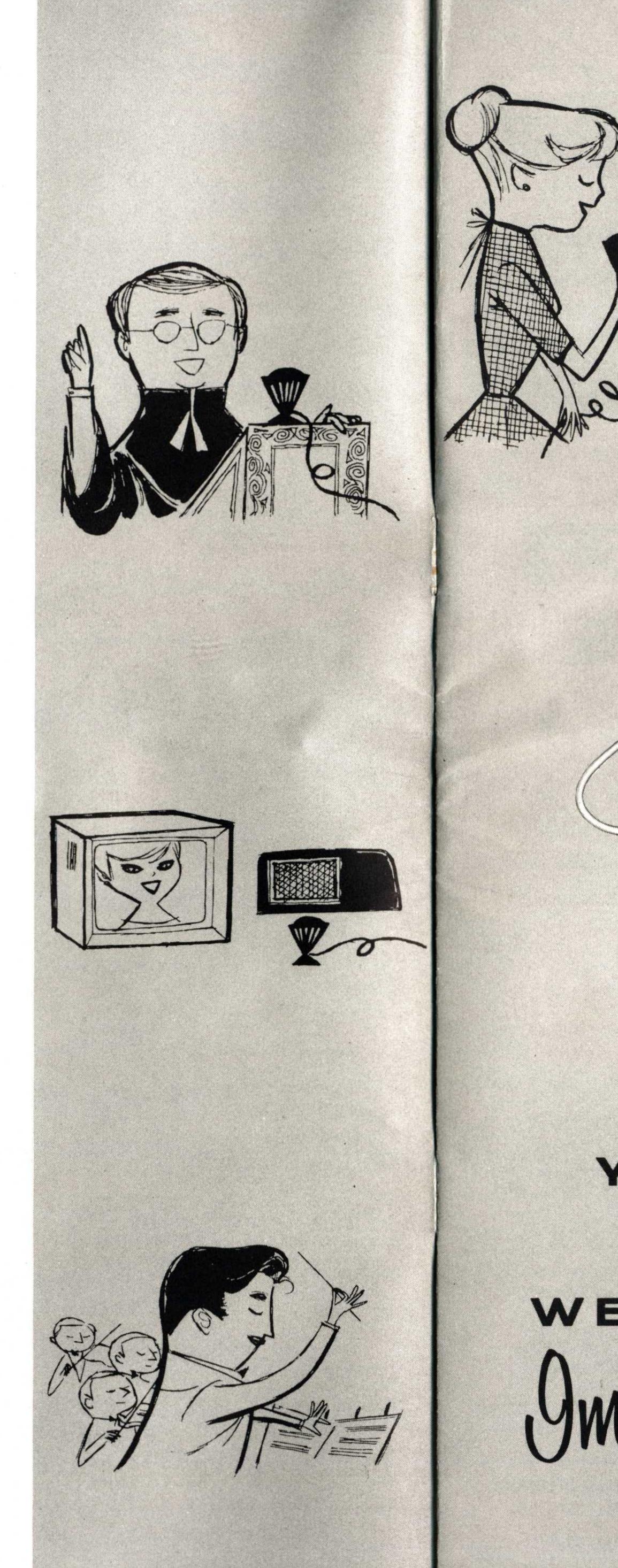
How to get more fun and best results from your

WEBCOR HIGH-FIDELITY Imperial (Model 2816)



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You and your WEBCOR OMPRUAL

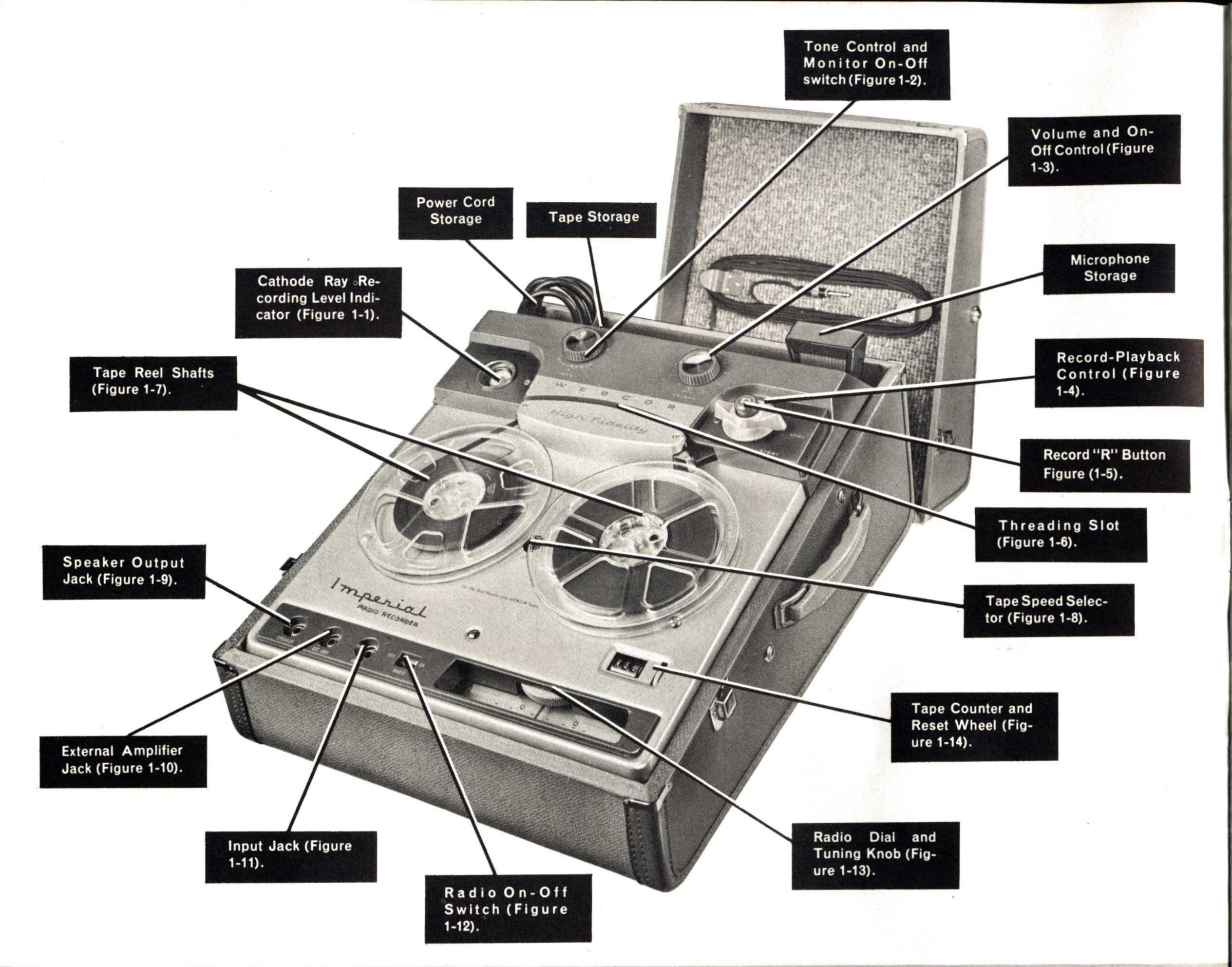
Let us take a few moments of your time and tell you about this wonderful Webcor Tape Recorder you have purchased. In a few minutes a new world of fun, frolic and hours of listening pleasure and excitement will be yours through the magic of your recorder.

To give you the utmost pleasure from your Imperial, Webcor has incorporated into this machine all the engineering skill and technical knowledge gleaned from years of pioneering and research in the manufacture of tape recorders.

You will find as the months go by that such quality as specially designed and Webcor-built recording heads, Webcor-built motors, powerful amplifier and large full-range speaker will deliver trouble free performance and rich rewards in a new found world of audio experiences.

Now in one simple operation you have at your finger tips an audio diary of your favorite memories, the voice of a young child, the speech of a friend, the tenderness of a wedding ceremony or the grandeur of a Beethoven concerto. These are yours to have for years to come just as they happened on your Webcor tape recorder.

For home, business, school—wherever there is a sound, you will find innumerable uses for your Webcor—the finest instrument of its kind. And your imagination is the only limit to its usefulness.



The controls of your WEBCOR

- 1. Cathode Ray Recording Level Indicator (Figure 1-1). This "eye" shows the proper sound level for recording.
- 2. Tone Control and Monitor On-Off switch (Figure 1-2). Tone control regulates the degree of bass and treble response in playback of recordings. Monitor "off" is extreme clockwise position. Any other position Monitor is "on." This Monitor control permits listening to what is being recorded simultaneously as it is being recorded.
- 3. Volume and On-Off Control (Figure 1-3). This control regulates volume of recorder for all operations; recording, playback and radio. It also turns power "on" or "off" for entire unit including radio.
- 4. Record-Playback Control (Figure 1-4). This master control combines the recording, playback, "Fast Forward" and fast rewind feature of the Imperial in one central control. The center button marked "R" (Figure 1-5) is the record button which must be depressed for recording and erasing.
- 5. Threading Slot (Figure 1-6). It is through here that the tape makes contact with the recording heads. These heads, not visible, are the heart of the recorder.

- 6. Tape Reel Shafts (Figure 1-7). These shafts are keyed (Figure 1-7A) so that the reels of tape fit snugly on the shaft and do not slip.
- 7. Tape Speed Selector (Figure 1-8). This control permits you to select tape speed at either 3¾ or 7½ inches per second. The Tape Speed Selector may be easily turned to either position with a small coin.
- 8. Speaker Output Jack (Figure 1-9). This jack is for connecting tape recorder to an external speaker.
- 9. External Amplifier Jack (Figure 1-10). Permits connections from recorder to external amplifier or Public Address System.
- 10. Input Jack (Figure 1-11) is for microphone or connections to an external radio, phonograph, electric guitar, etc.
- 11. Radio On-Off Switch (Figure 1-12) turns radio power on and off. Radio Dial and Tuning Knob (Figure 1-13).
- 12. Tape Counter and Reset Wheel (Figure 1-14). This counter permits you to find quickly any particular portion of your recording. Rotate the Reset Wheel toward the rear of the unit to set the dial to 000.

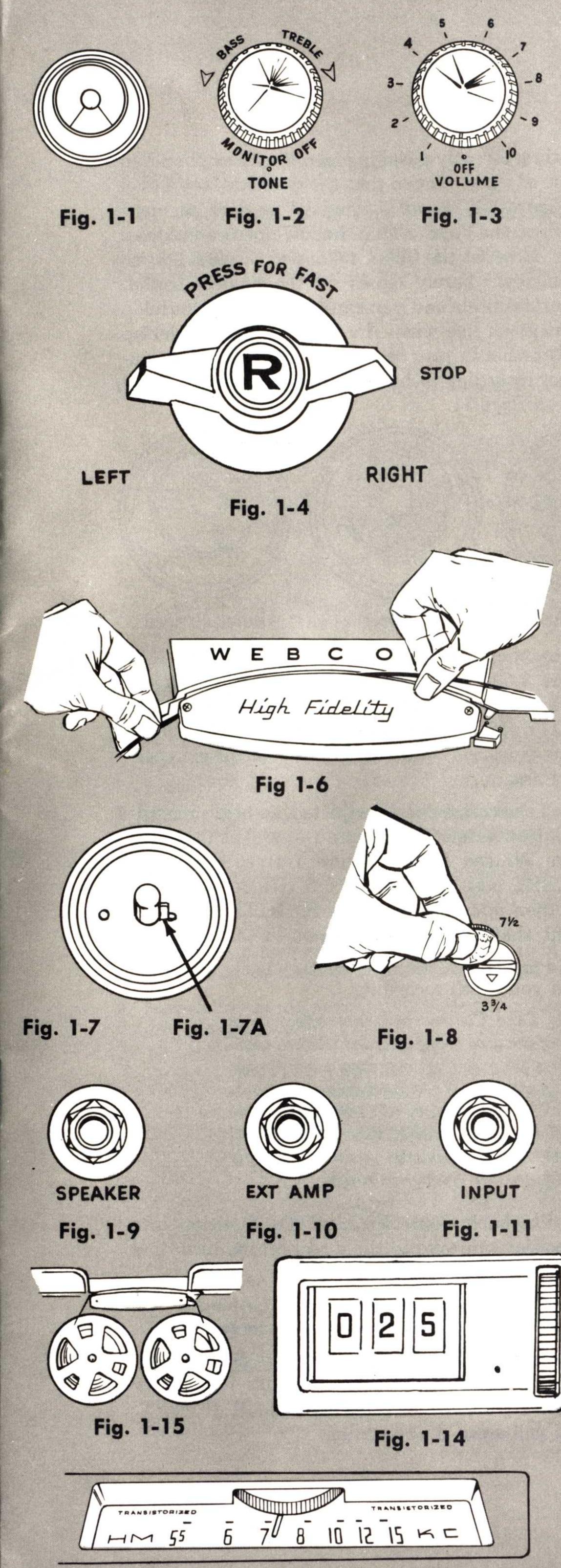


Fig. 1-13

How to record from a microphone

To set up recorder

- 1. Set Record-Playback Control (Figure 1-4) to STOP position.
- 2. Plug power cord into electrical, outlet. (105 to 125 volts, 60 cycles AC only) DO NOT PLUG INTO DIRECT CURRENT.
- 3. Connect microphone into INPUT jack (Figure 1-11).
- 4. Turn Volume-On control clockwise to turn unit "on" (Figure 1-3). Allow sufficient time for amplifier to "warm-up" before starting to record.
- 5. Set Tape Speed Adjustment (Figure 1-8) to $3\frac{3}{4}$ or $7\frac{1}{2}$ inches per second. The slower speed is more than adequate for recording speech or AM radio programs. The faster speed which gives greater fidelity and frequency range, is best for recording music. When using both tracks a 5'' reel will play 1 hr. at $3\frac{3}{4}$ IPS or $\frac{1}{2}$ hr. at $7\frac{1}{2}$ IPS—a 7'' reel plays 2 hrs. at $3\frac{3}{4}$ IPS or 1 hr. at $7\frac{1}{2}$ IPS. Webcor recording heads are designed for dual track recording—half of tape or $\frac{1}{8}''$ width is recorded first. When reel direction is reversed, the remaining half width is recorded. This is called dual track recording.
- 6. Place full reel of tape on either hub so that slot in reel hub fits snugly over the shaft key (Figure 1-7A). Do the same with the empty reel on the other hub. NOTE: This recorder records in either direction without reel turnover.
- 7. To thread tape properly, with full reel on the left hub, unwind about 18" of tape. Slip tape into slot at left end of Threading Slot (Figure 1-6) and hold in place with the thumb so it does not slip. Now slide rest of tape into slot from left to right by feeding tape into slot while holding tape against back side of slot opening. When tape is threaded through slot, make three or four turns around the empty reel. (NOTE: With full reel on right hub, reverse above procedure.)
- 8. Wind empty reel to take up slack in tape. Proper threading looks like Figure 1-15.

NOTE: Be sure the tape reels are wound with the dull side of the tape facing inside of the reel. This is called an "A" wind.

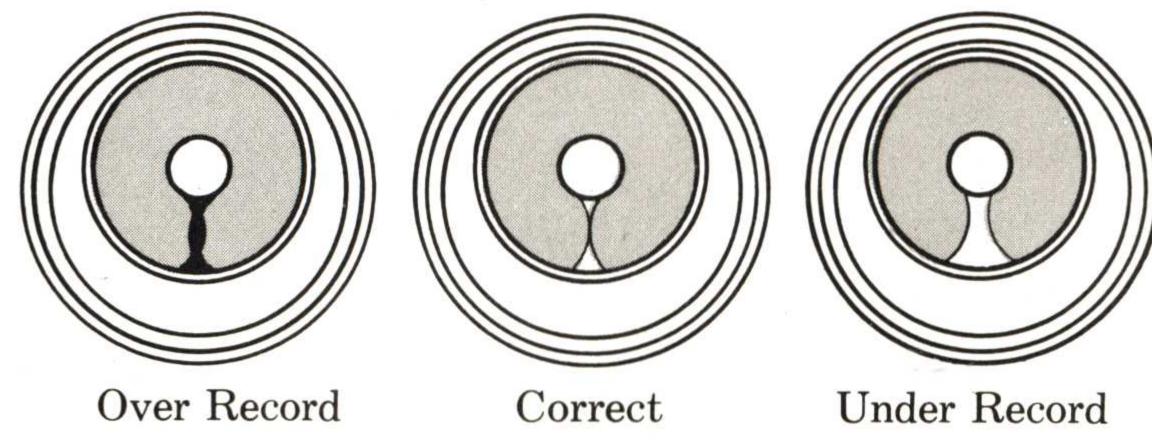
- 9. Now set Tape Counter (Figure 1-14) to 000.
- 10. Turn Monitor control "off".

To record



How to playback a recording

1. Adjust recording level by speaking into the microphone, in a normal tone of voice. Notice that the Cathode Ray Level Indicator (Figure 1-1) shows a "shadow" or dark segment at the bottom of the "eye". This shadow opens and closes as you speak. Now set the Volume Control (Figure 1-3) so that the "shadow" barely closes on the loudest sound. Overlap is not desirable and you can easily see this overlap by the bright green line when the shadow closes. Overlap will cause distortion in your recordings. For more information on proper recording techniques read "Hints For Good Recording" on Page 11.



- 2. If you desire to monitor your recording, turn Tone-Monitor switch (Figure 1-2) counter-clockwise until it clicks (It will only click if switch was in "off" or extreme clockwise position). NOTE: If unit squeals move speaker away from microphone or (vice versa) or turn tone control counter-clockwise to Bass.
- 3. When volume has been properly adjusted, to begin recording, depress button letter "R" (Figure 1-5) and at the same time turn the Winged Knob (Figure 1-4) to either the RIGHT or LEFT position. If your full reel of tape is on the left side, then you turn Knob to RIGHT; if full reel is on the right shaft, turn Winged Knob to LEFT.
- 4. Turn Record-Playback Control (Fig. 1-4) back to STOP position when you finish recording.

NOTE: Tone Control does not affect tonal quality of the tape being recorded. Record characteristics are preset at the factory for optimum recording quality. When recording with monitor "on", tonal quality of monitor can be adjusted to your pleasure. When tone control is set at extreme clockwise position, recorder is giving greatest frequency range.

1. Turn Record-Playback Control from STOP position into REWIND position opposite to the direction the recording was made.

CAUTION: Do not press the "R" button for playback or rewind. This would erase your recording.

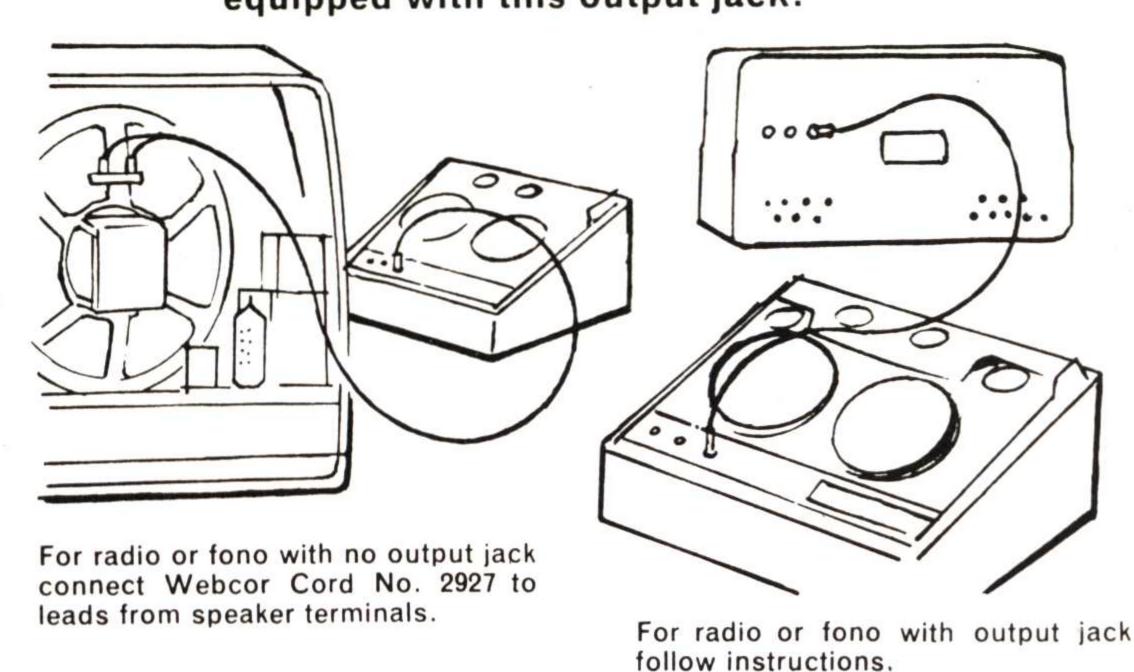
2. If you wish to make a fast rewind, then press down on the Record-Playback Control and turn to either RIGHT or LEFT position. Again, do not press down the R "Record" button or you will erase the recording.

- 3. When you finish rewind, turn Record-Playback Control to the STOP position.
- 4. To play back, now turn Record-Playback Control to RIGHT or LEFT position as the case may be. (Again, be sure you do *not* press down R (record) button or you will erase the recording.)
- 5. Adjust Volume and Tone Control to suit your listening pleasure.
- 1. Set Record-Playback Control (Figure 1-4) to "stop" position.
- 2. Turn volume control knob "on" (clockwise) (Figure 1-3). This will turn on the unit and adjust volume.
- 3. Turn Monitor control "on".
- 4. Slide Radio switch (Figure 1-12) to right or "on".
- 5. Tune station by turning tuning knob (Figure 1-13).

CAUTION: If plug is inserted into the input jack (Figure 1-11). The radio signal will be cut off.

- 6. Follow instructions under "To Set Up Recorder" from paragraph 5 to 9 inclusive.
- 7. Now follow instructions under "To Record" but when adjusting recording level, do so by adjusting radio volume instead of by speaking into microphone as described in paragraph 1 under "To Record".
- 8. During recording, Monitor switch may be left "on" or turned off (which cuts out the speaker) as you may desire.
- 1. Connect Webcor Input Cord No. 2927 between output of FM radio or phonograph and input of tape recorder (Figure 1-11).
- 2. If you want to monitor your recording, turn Monitor-Tone control on/or counter-clockwise from "off" position.
- 3. Now follow same procedure for recording from microphone and playback.

NOTE: If your radio or phonograph is not equipped with an output jack, your service man can easily install one for you. Most Webcor Phonographs are equipped with this output jack.



How to
play your

(Model 2996 only)

How to record from your mperiod radio

How to record from a FM radio or phonograph

How to use recorder as a public address system

How to use tape recorder with another tape recorder

How to use recorder with external amplifier (for playback only)

- 1. Set Record-Playback Control to stop position.
- 2. Connect microphone or any external source (use 2927 input cord) to input jack (Figure 1-11).
- 3. Turn monitor control on.
- 4. Adjust volume and tone control as desired.

NOTE: If microphone feedback (squeal) occurs, move microphone away from speaker or adjust volume or tone control to eliminate squeal.

5. You may record your speech during delivery by following instructions for recording on Page 3.

NOTE: The connecting cords listed above as well as other Webcor accessories to use with Webcor recorders are listed on the back page of these operating instructions.

- 1. For recording from another recorder use Webcor No. 2943 Input-Output Cord. Connect cord from output of auxiliary recorder to input of Imperial. Auxiliary Recorder must be set to "Playback Position." Imperial Recorder must be set to "Record Position." Turn volume control of auxiliary recorder to fairly high volume, but not so high as to cause distortion. If sound is "mushy" turn volume down gradually till distortion clears.
- 2. Adjust volume control of Imperial to proper recording level as described on Page 4.
- 3. Now follow standard recording and playback procedure.
- 1. Connect Webcor Output Cord No. 2928 from the EXT. AMP. jack (Fig. 1-10) of recorder to the phono. or aux. input of the external amplifier.
- 2. Follow same procedure for playback as previously described.

NOTE: The ext. amp. jack of the recorder provides cathode follower output at a level of 1½ volts maximum.

This is another helpful feature of your Webcor. By using the tape counter you can rapidly and simply locate any section on your reel of tape.

- 1. Before recording set Tape Counter at 000.
- 2. At the conclusion of your first recording session jot down the reading of the Tape Counter. Let us say it is 150. Now you know the recording lies between 000 and 150.
- 3. If you make a second recording, you would naturally start it at about 155, allowing a few inches of space between the first and second recording.
- 4. At the end of the second recording, again jot down the reading on the Tape Counter. If it is 300, then your second recording lies between 155 and 300. And so on.

A little practice with the Tape Counter will make it invaluable for quickly locating any recording you want. Just be sure to write down the Tape Counter reading on the back of the reel box after you record. All Webcor tape boxes provide a chart on the box for keeping a record of recordings.

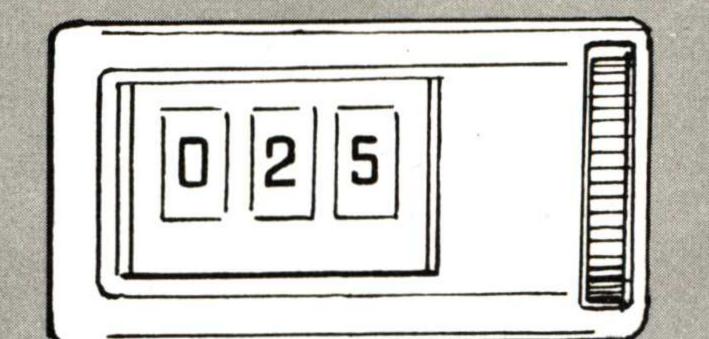
Webcor tapes, because of their high quality and true recording fidelity, are best for use with a Webcor tape recorder. Cheaper tapes often produce unsatisfactory recordings.

NOTE: If your tape runs from the left reel to the right, the numbers increase. If the tape runs from the right to left, the numbers will decrease.

Set Record-Playback Control at the STOP position. The REWIND or "FAST FORWARD" is operable only when the Record-Playback Control is in this STOP position.

Press down on the wing control and turn to the desired position, RIGHT or LEFT.

How to use tape counter





How to use
"rewind" or
"fast forward"

How to edit and splice tape How to store tape How to maintain your recorder EBCOR High Fidelity

- 1. To remove or insert a section of tape, or if the tape is accidentally torn, you can easily splice the ends.
- 2. Lap two ends of tape, then cut at 45° angle.
- 3. Butt the ends together smoothly, then place a short length of splicing tape over the joint.
- 4. Trim the edges of the splicing tape so that no sticky surface extends out from the edges of the recording tape.

CAUTION: Do not use cellophane tape for splicing. It will "Blend" and cause adjacent layers of recording tape to stick together. Use only splicing tape made for this purpose. It is available at your dealer.

1. It is best not to crease or twist recording tape. Keep your tapes in a cool place, away from heat. Do not let them dry out. In handling tape, avoid touching the recording side with your fingers.

CAUTION: Do not leave tape in storage compartment of recorder when recorder is in use. The heat produced by amplifier may damage tape.

Your recorder will not need lubrication for a long time. For adjustments and lubrication, it is best to take your recorder to your dealer or Authorized Webcor Service Agency listed on enclosed sheet.

It is normal for dust, lint and oxide from tape to gradually accumulate on the face of the magnetic recorder heads. This results in poor erasure, loss of higher frequencies, loss of volume, distortion and intermittent sound.

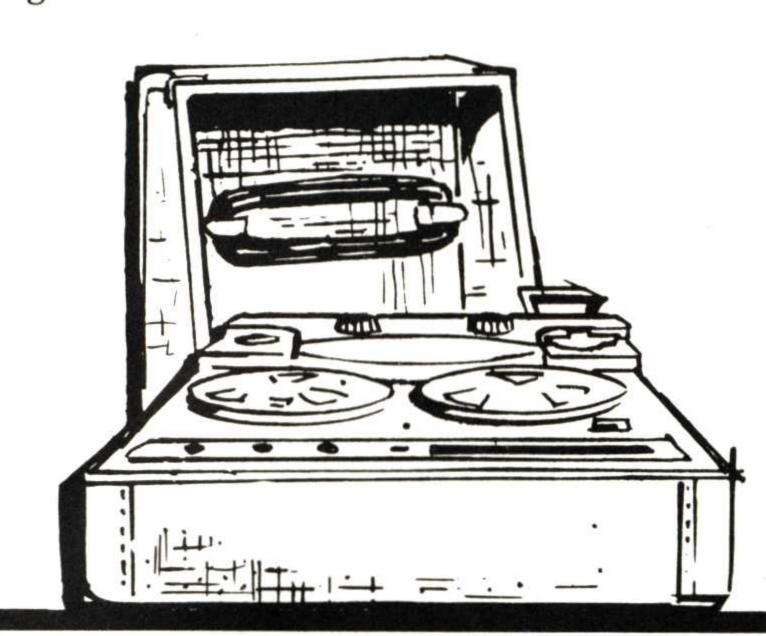
To clean the recorder heads, use a No. 1 Phillips head screwdriver to remove the screws holding down the plastic head cover.

Remove the cover and clean the face of the heads carefully with alcohol and a clean soft cloth.

The frequency of cleaning depends upon the amount of use and quantity of dust in the room. When not in use, the recorder should be covered.

CAUTION: Do not use carbon tetrachloride for cleaning. It will damage tape.

- 1. Place reel of tape on reel shaft.
- 2. Set recorder Volume Control as low as possible, but do not turn off the power.
- 3. Depress R button and turn wing knob to proper position. The recording heads will erase the tape completely.
- 4. If you wish, you can make a new recording on a tape already recorded without going through the above steps. Simply start recording and this will automatically erase the old recording as you make the new recordings.
- 5. Because you can erase tapes, you can make countless recordings.

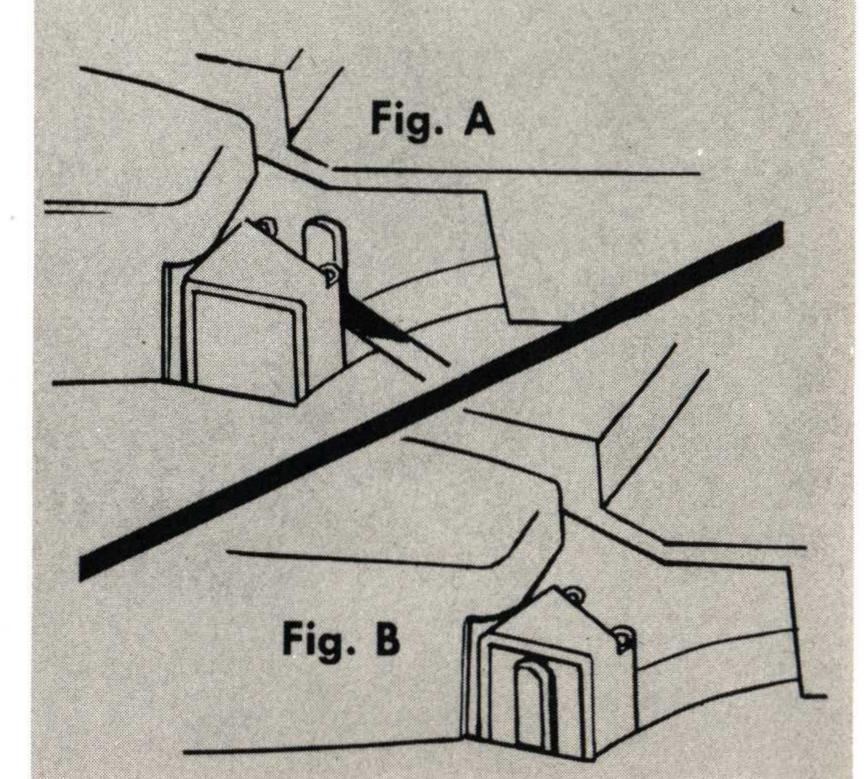


- 1. Your Webcor Recorder is equipped with automatic stops in both directions of tape travel which shuts off power at end of reel of tape. This automatic shut feature is designed to stop the recorder when the end of the tape has passed through the recording head. The shut off arm is held in operative position (See Figure A) while tape is passing over recorder heads. When end of tape is reached, shut off arm returns to "off" position (Figure B).
- 2. Your Webcor Recorder is designed to record and play back on two independent paths on the tape, one path when tape is traveling from left to right and the other path when tape is traveling from right to left. This feature permits you to obtain double the recording time per reel of tape, and eliminates the necessity and inconvenience of turning reel over. When you are recording or playing back and reach the end of reel of tape, switch tape travel direction and continue playing back or recording on second path.
- 3. Your Webcor Recorder also features a separate full range speaker in the removable lid. Bass frequencies are extended through Webcor's exclusive new "Twin-Flex" baffle arrangement.

How to erase a recording



Features
of your
WEBCOR
tape recorder



How to solve typical recording problems



1. Recorder will not turn on

AC fuse may be burned out. Remove the tube protecting grill from bottom of case and replace fuse in screw type fuse holder. A 2 ampere fuse is required.

The power plug may be defective.

2. No sound on tape sent by a friend

The tape may be "B" wound, with the dull, recorded side facing away from the reel hub. Rewind it, but turn the tape over on the empty reel side of the Threading Slot so the dull, recording side faces the hub when attaching to the Take-up Reel.

3. Recording sounds mushy and distorted

Do not "over-record." Do not turn the volume control high enough to cause the shadow of the magic eye volume level indicator to close tightly or you will over-record.

Worn or glazed pressure pads may also cause distortion. Your dealer will check these for you.

4. Recording sounds thin and weak

If the volume control was not turned far enough, a weak recording will result. Full volume will be needed when playing back and it will sound weak and thin.

5. The recording sounds very fast or very slow

The Tape Speed Control is in the wrong position.

6. "Thumps" and noises in background

Your friends were not quiet while the recording was being made. The microphone may have been lying on a table. Cushion it with a folded cloth or rubber sponge to absorb the jars and table noises.

Hints for good recordings

The ability to get the best results with a microphone improves with practice. The microphone should be held far enough from the mouth to permit a moderate setting. A distance of about 8 inches from mouth is generally best.

Some people pronounce "B's" and "P's" with an explosive puff which overloads the microphone. Others speak with sharp sibilants which are overaccentuated when the recording is played back. In such cases, or in recording whistling or wind instruments, the microphone should be held sideways at right angles to the mouth or sound source.

There are, however, many variations in individual speech, and it is advisable to make a few practice recordings to discover the best microphone distance and volume setting. The usual tendency is to talk too loudly and too close to the microphone.

For recording musical instruments or singing, where the microphone may be several feet from the source of sound, it should be remembered that room echoes will seriously affect the quality of the recording. That is why radio broadcast studios are specially built to keep such echoes from reaching the microphone.

Such absorbing articles as drapes, tapestries, overstuffed furniture, rugs, or an audience, all aid in absorbing and eliminating echoes and hollow sounding recordings.

Auditoriums and rooms with relatively bare walls present especially difficult recording conditions. Drapes or a wool blanket hung behind an individual performer will help break up echoes.

Nestling the microphone on the top of a folded coat or pile of cloth will also absorb echoes and improve the recording.

When recording speeches or programs in auditoriums equipped with a good public address system, better results may often be obtained by placing the microphone in front of one of the loud-

speakers instead of trying to record directly at the speaker's stand.

Most problems associated with microphone placement and microphone technique are those encountered by the average public address technician. Each installation is different. Only experience will enable you to quickly analyze a new set of conditions and place the microphone correctly. You can learn, however, the recording conditions most frequently encountered in your own home. Special problems can best be solved on the spot by consulting a local technician.

The microphone supplied with your recorder has high frequency characteristics and high sensitivity. When held in the hand or mounted in the MS-111 microphone stand, it has semi-directional characteristics. Its output is rated at -50 db.

Non-directional characteristics for recording groups will result from placing the microphone on its back on a soft pad (to absorb unwanted jars and vibration). Rather large groups can be recorded successfully.

Special microphones may be desired by professional and advanced amateur recorders for special pickups. Any microphone with an output of -55 db or better can be used.

Radio programs should be recorded directly from the receiver circuit instead of from the loud-speaker and microphone. Accessories shown on another page can be installed in a few minutes by anyone familiar with radio circuits or by any competent radio service technician.

Special installations sometimes require a microphone cable longer than is supplied with the microphone. Up to 45 feet of additional cable may be added without undue loss of sensitivity or fidelity. You may use from one to three 15-foot Webcor microphone extension cables No. 2929 for this purpose. For greater distance, low impedence transmission lines and matching transformers should be used.

Suggestions for interesting recordings

Plan your recording

The recordings you keep should be carefully planned. Not only will you enjoy them more, but you will be proud to play them for your friends.

Planning includes the choice of program material, the writing and editing of the dialogue, music and sound effects for your plays and skits, the personal introductions to radio programs or recordings from phonograph records and even the plans for recording family gatherings, weddings, birthdays, and parties. Unless your programs are carefully planned, you may find that you have hours of almost incoherent recordings.

Planning also includes the physical placement of the recorder and microphone for the best results.

Family gatherings, birthdays, weddings, and parties are often difficult. Best results will be obtained when the guests know you are recording. Ask them to co-operate for the few minutes during which you record "for keeps", while recording the greetings and good wishes for the guest or guests of honor. After this good recording is completed, then tell them to go ahead and record any fun and frolic they wish.

When recording "for keeps", direct the guests so that the parents or close friends and relatives record their greetings first. You might need to write suggested dialogue for those who get "mike" fright and cannot think of anything to say.

A microphone extension cord is often invaluable. When the recorder is placed away from the microphone those being recorded will be more at ease and act more naturally. A 15-foot extension, Webcor No. 2929, is available from your dealer.

Those studying dramatics will especially appreciate the opportunity of writing and producing radio type presentations. The casting of voice parts, sound effects, and smooth direction become doubly important for the final result is the only one that is heard. For example, the most important qualification for the leading lady is not beauty, but rather the best "voice personality" to put over the part.

For best results write an actual script, just as you would write a play. Indicate the sound effects and special effects required to put over the message. Practice the parts several times so that the reading of the script sounds natural and is delivered smoothly and accurately.

TYPICAL RECORDINGS A sound album of your family

You will cherish, on tape, the first words of your child, his first music lesson, his first favorite story,

Anniversaries and parties. Special occasions. A diary of your thoughts. A sound commentary for your music films.

Recordings of favorite stories and music which your children love to hear.

Your recorder is also invaluable in aiding your children in their schoolwork. Speech and language practice, music study, etc. Learning to speak into a microphone gives them confidence and helps bring out their hidden talents.

Record your favorite radio and TV programs. Replay them for your friends.

In business

Your recorder puts more authority in your voice. Use it five minutes a day and shortly you will observe a great difference in your voice and personality.

The recorder is excellent for sales meetings and conferences. Sales training programs. Dictation. Making inventories.

As a record of telephone conversations. (For this purpose, your dealer will supply you with the necessary accessory.)

Billing. Personnel time chart, etc.

In schools and churches

Nothing quite equals a tape recorder for remedial work in reading and speech. An excellent aid in foreign language classes, assembly programs, etc. Indispensable for radio and dramatic skits. For recording famous events, like a presidential inaugural address, news, etc.

Many ministers practice their sermons with a tape recorder. Master tapes can be multi-taped for distribution among the congregation.

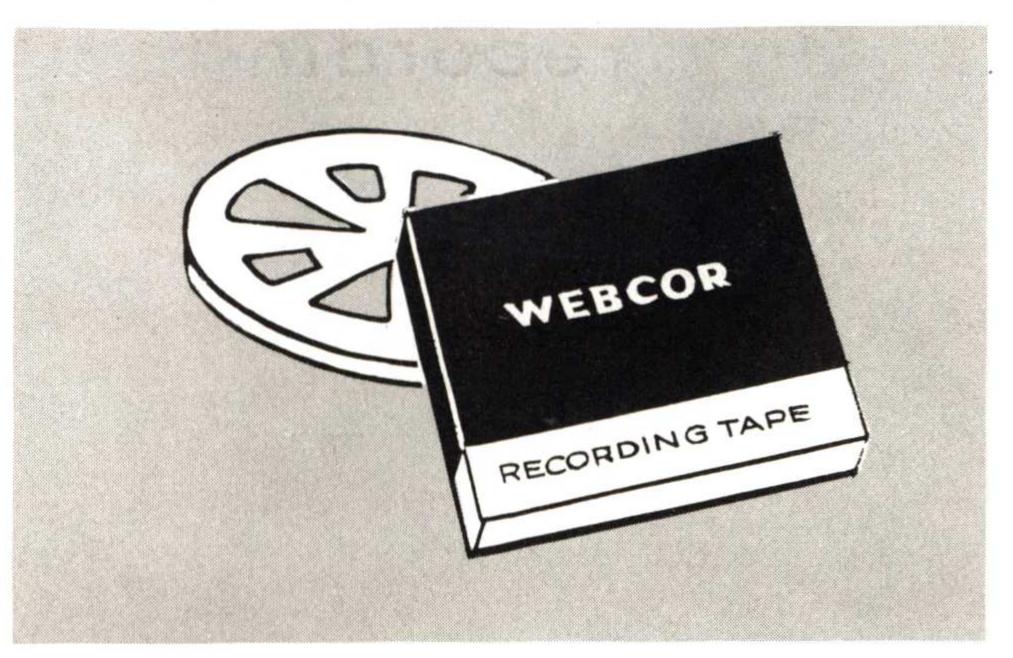
Many married couples cherish a recording of the ceremony.

Also invaluable for social events, Sunday school classes, etc.

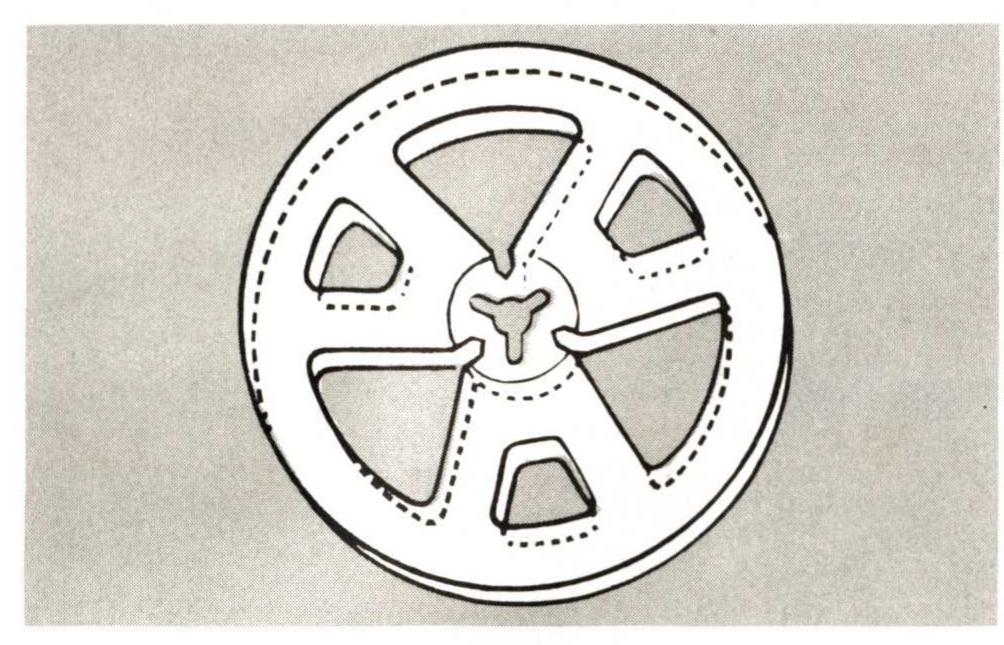
The uses of a Webcor Tape Recorder are limited only by your imagination.

Webcor accessories are best for your recorder

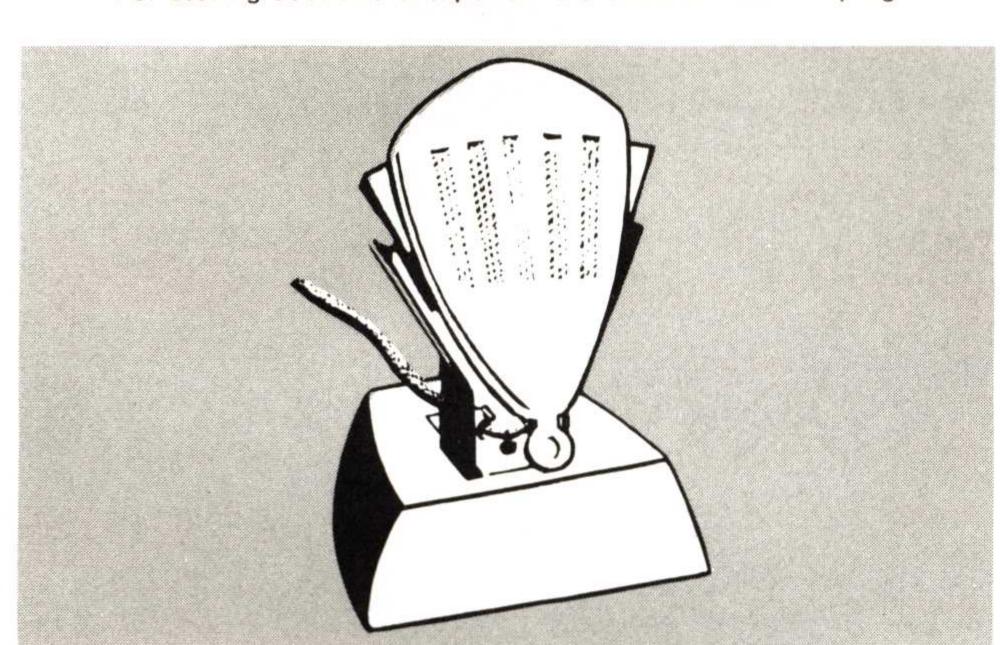
(These accessories should be obtained from your dealer)



No. 2906-7" WEBCOR PRETESTED TAPE No. 2907-5" WEBCOR PRETESTED TAPE



No. 2908—7" SPARE RECORDING TAPE REELS
No. 2909—5" SPARE RECORDING TAPE REELS
For storing sections of tape for reference and safekeeping.



No. MS-111 MICROPHONE STAND

Holds microphone No. 2930 in position on desk or speakers table.

No. A-2948 MICROPHONE STAND

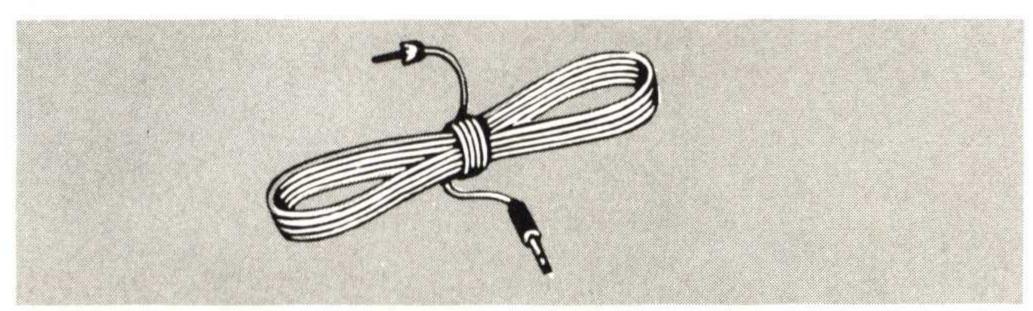
For use with microphone No. A-2945 also available.

WARRANTY

Webcor warrants this unit for a period of ninety (90) days from date of purchase to be free of defects in material and workmanship. If, for any reason, service or adjustment of this Webcor unit is necessary within the warranty period, the instrument must be returned to the dealer from whom it was purchased. For service beyond the warranty period, any qualified service technician is equipped to service the unit.

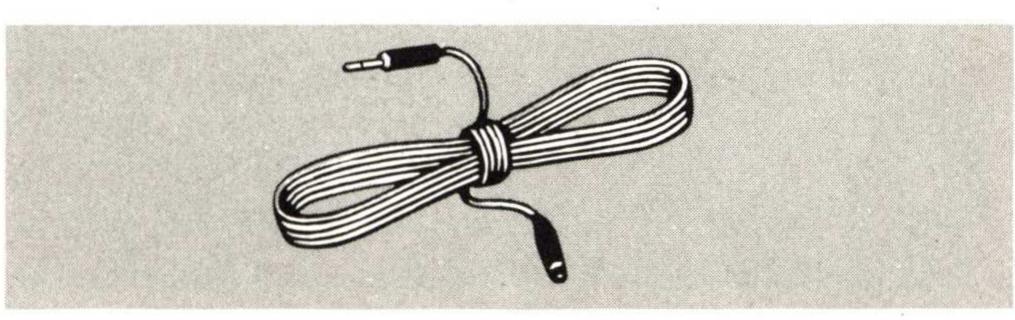
For name and address of Authorized Service Agency in your area, consult enclosed list of Service Agencies or ask your Webcor dealer.

IMPORTANT: If the Model, Serial or Registration Number is defaced or removed from the unit, the warranty is void.



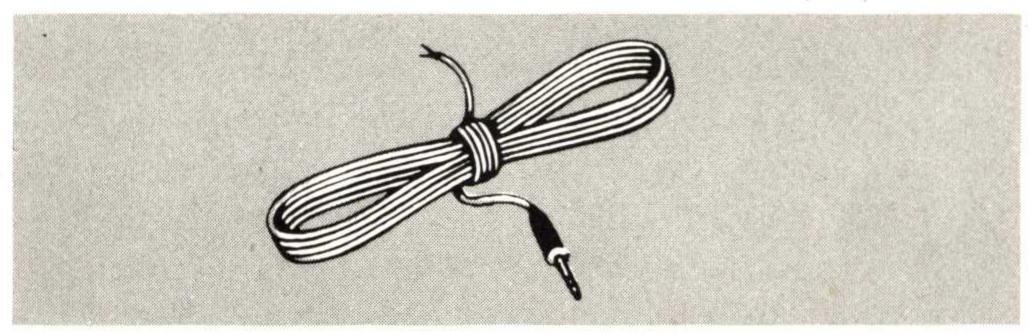
No. 2925 OUTPUT CORD ASSEMBLY

6' cable for use in connecting Webcor clock radios and fonografs to Webcor tape recorders.



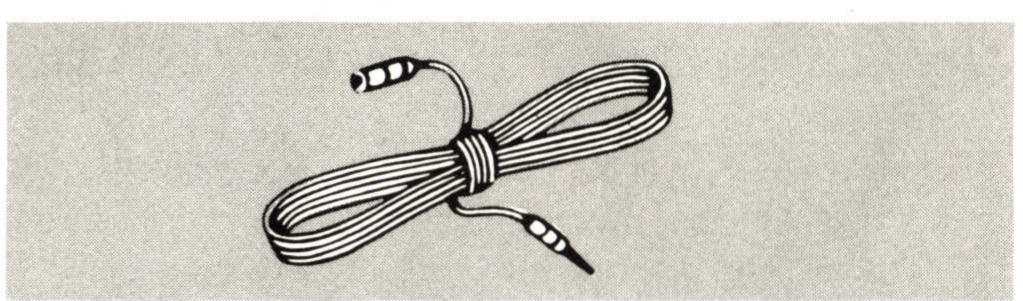
No. 2929 MICROPHONE EXTENSION CORD

15' extension cable, to be used for extending cord on No. 2930 microphone.



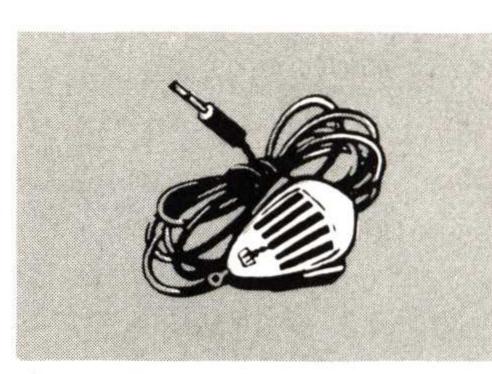
No. 2927 INPUT CORD ASSEMBLY

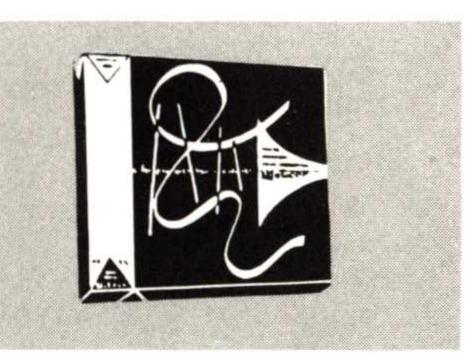
10' shielded cable for use in connecting a tuner, radio or phonograph pickup to Webcor recorders.



No. 2926 INPUT CORD ASSEMBLY

15' shielded cable for use in extending cord No. 2925.





No. 2930 ACCESSORY MICROPHONE

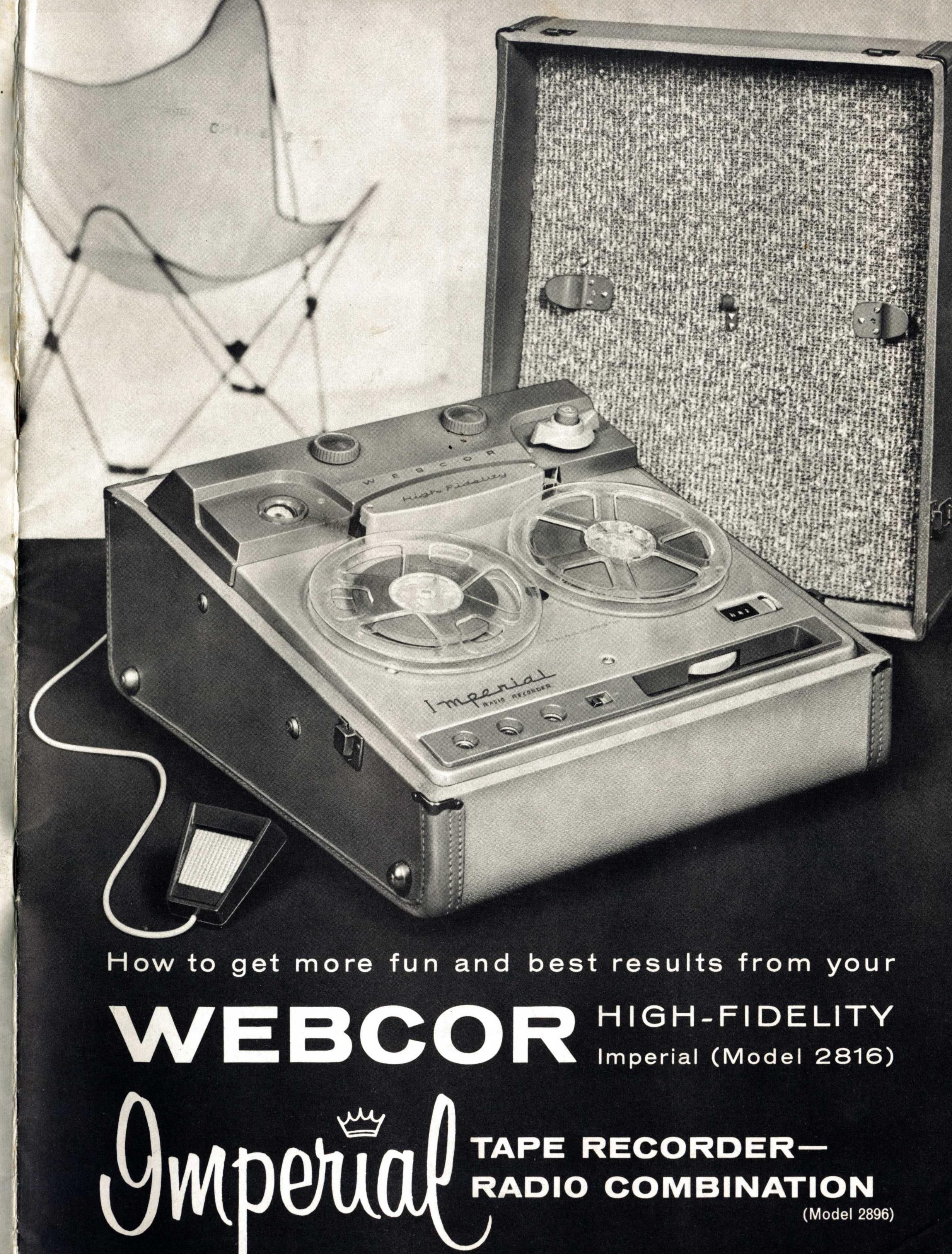
6' cord and crystal microphone for use with Webcor tape recorders using microphone jack input plug.

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